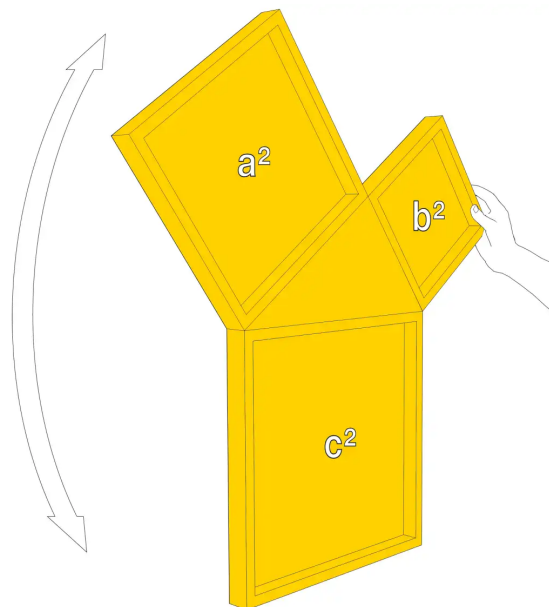


# Pythagoras' theorem

Do you manage to fill the two smaller squares with the liquid from the largest square?



Make sure that the largest square is in its lowest position. It must be completely filled with liquid.

Turn the disc through half a turn so that the largest square is in the highest position.

How full are the two smaller squares?

The fluid can exactly fill the large square, or both of the smaller squares.

The squares labelled  $a^2$ ,  $b^2$  and  $c^2$  lie on the sides of a right-angled triangle. According to Pythagoras' theorem, the square of the length of the hypotenuse (longest side) is equal to the sum of the squares of the lengths of the other two sides. Geometrically this means that the area of the square built on the hypotenuse equals the sum of the two areas of the squares built on the other two sides. So the total area of  $a^2$  and  $b^2$  is the same as the area of  $c^2$ .

Pythagoras established this theorem in the 6th century BC.